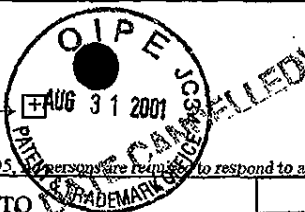


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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 1 of 12

Application Number 09/866,067
Filing Date May 23, 2001
First Named Inventor Mcade et al.
Group Art Unit Not Yet Assigned
Examiner Name Not Yet Assigned
Attorney Docket Number A-58762-20/RFT/RMS/RMK

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U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	U.S. Patent Document Number Kind Code ² (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
TL	1	4,704,193	Bowers et al.	11/1987	
	2	4,707,352	Stavrianopoulos	11/1987	
	3	4,707,440	Stavrianopoulos	11/1987	
	4	4,711,955	Ward et al.	12/1987	
	5	4,755,458	Rabbani et al.	7/1988	
	6	4,787,963	MacConnell	11/1998	
	7	4,840,893	Hill et al.	6/1989	
	8	4,849,513	Smith et al.	7/1989	
	9	4,868,103	Stavrianopoulos et al.	9/1989	
	10	4,894,325	Englehardt et al.	1/1990	
	11	4,943,523	Stavrianopoulos	7/1990	
	12	4,945,045	Forrest et al.	07/1990	
	13	4,952,685	Stavrianopoulos	8/1990	
	14	4,994,373	Stavrianopoulos	2/1991	
	15	5,002,885	Stavrianopoulos	3/1991	
V	16	5,013,831	Stavrianopoulos	5/1991	
	17	5,082,830	Brakel et al.	1/1992	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document Office ³ Number ⁴ Kind Code ² (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁵
TL	18	EP 0 234 938 A2	Cranfield Inst. of Tech.	2/1987		
	19	EP 0 229 943 B1	Molecular Biosystems Inc.	7/1987		
	20	EP 0 599 337 A2	Canon Kabushiki Kaisha	1/1994		
	21	EP 0 063 879 A2	Yale University	11/1982		
	22	EP 0 515 615	Boehringer Mannheim	9/1996		
	23	CA 2 090 904 A1	F. Hoffman-La Roche	9/1993		
	24	JP 238,166 A	Mitsubishi Corp.	1988	abstract	
V	25	JP 6-41183 A2	Mitsubishi Corp.	1994		

Examiner Signature *TL* Date Considered 12/15/2003

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¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English Language Translation is attached.

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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SEP 04 2001

Sheet 2 of 12

Complete if Known	
Application Number	09/866,067
Filing Date	May 23, 2001
First Named Inventor	Meade et al.
Group Art Unit	Not Yet Assigned
Examiner Name	Not Yet Assigned
Attorney Docket Number	A-58762-20/RFT/RMS/RMK

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	U.S. Patent Document		Names of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
W	26	5,089,112		Skotheim et al.	02/1992	
	27	5,175,269		Stavrianopoulos	12/1992	
	28	5,180,968		Bruckenstein et al.	01/1993	
	29	5,241,060		Englehardt et al.	8/1993	
	30	5,242,828		bergstrom et al.	09/1993	
	31	5,278,043		Bannwarth et al.	1/1995	
	32	5,312,527		Mikkelsen et al.	5/1994	
	33	5,328,824		Ward et al.	7/1994	
	34	5,356,786		Heller et al.	10/1994	
	35	5,391,272		O'Daly et al.	02/1995	
	36	5,403,451		Riviello et al.	4/1995	
	37	5,436,161		Bergstrom et al.	07/1995	
	38	5,443,701		Willner et al.	08/1995	
	39	5,449,767		Ward et al.	9/1995	
	40	5,472,881		Beebe et al.	12/1995	
	41	5,476,928		Ward et al.	12/1995	
↓	42	5,552,270		Khrapko et al.	9/1996	

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		Office ³	Number ⁴	Kind Code ² (if known)				
W	43	WO	86/05815	A1	Genetics International Inc.	03/1985		
	44	WO	90/05732	A1	Columbia Univ.	5/1990		
	45	WO	92/10757	A1	Boehringer Mannheim	6/1992		
	46	WO	93/22678	A2	Mass Inst. of Tech.	11/1993		
	47	WO	93/10267	A1	IGEN, Inc.	5/1993		
	48	WO	94/22889	A1	Cis Bio International	10/1994		
	49	WO	95/15971	A2	Calif. Inst. of Technology	6/1995		
↓	50	WO	96/40712	A1	Calif. Inst. of Technology	12/1996		

Examiner Signature	<i>W. C.</i>	Date Considered	12/15/2003
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Substitute for form 1449A/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary) SEP 04 2001		Application Number	09/866,067
		Filing Date	May 23, 2001
		First Named Inventor	Meade et al.
		Group Art Unit	Not Yet Assigned
		Examiner Name	Not Yet Assigned
Page 3 of 12	Attorney Docket Number	A-58762-20/RFT/RMS/RMK	

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U.S. PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
W	51	5,565,552		Magda et al.	10/1996	
	52	5,571,568		Ribi et al.	11/1996	
	53	5,573,906		Bannwarth et al.	11/1996	
	54	5,591,578		Meade et al.	1/1997	
	55	5,595,908		Fawcett et al.	1/1997	
	56	5,601,982		Sargent et al.	2/1997	
	57	5,620,850		Bamdad et al.	4/1997	
	58	5,632,957		Heller et al.	05/1997	
	59	5,700,667		Marble et al.	12/1997	
	60	5,705,348		Meade et al.	1/1998	
	61	5,741,700		Ershov et al.	4/1998	
	62	5,756,050		Ershov et al.	5/1998	
	63	5,770,369		Meade et al.	6/1998	
	64	5,770,721		Ershov et al.	6/1998	
	65	5,776,672		Hashimoto et al.	7/1998	
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W	67	5,795,453		Gilmartin et al.	08/1998	

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Examiner Initials*	Cite No. ¹	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
		Office ³	Number ⁴	Kind Code ² (if known)			
W	68	WO	97/01646	A2	Univ. of N. Carolina	1/1997	
	69	WO	97/31256	A3	Cornell Res. Foundation	08/1997	
	70	WO	97/44651	A1	AU Membrane and	11/1997	
	71	WO	97/27329	A1	Univ. of Chicago	7/1997	
	72	WO	97/41425	A1	Univ. of Alberta	11/1997	
	73	WO	98/20162	A2	Clinical Micro Systems	5/1998	
	74	WO	98/27229	A1	Univ. of Chicago	6/1998	
	75	WO	98/28444	A2	Univ. of Chicago	7/1998	
	76	WO	98/35232	A2	Univ. of N. Carolina	8/1998	
W	77	WO	98/51823	A1	Mosaic Technology	11/1998	

Examiner Signature	<i>Wheeler</i>	Date Considered	12/15/2003
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¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English Language Translation is attached.

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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
SEP 04 2001
(use as many sheets as necessary)

Application Number	09/866,067
Filing Date	May 23, 2001
First Named Inventor	Meads et al.
Group Art Unit	Not Yet Assigned
Examiner Name	Not Yet Assigned
Attorney Docket Number	A-58762-20/RFT/RMS/RMK

Sheet 9 of 12

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SEP 07 2001

Examiner Initials*	Cite No. ¹	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ^c
		Office ³	Number ⁴	Kind Code ² (if known)				
<i>u</i>	94	WO	98/57159	A1	Clinical Micro Systems	6/1997		
	95	WO	99/57319	A1	Clinical Micro Systems	11/1999		
	96	WO	99/67425	A2	Clinical Micro Systems	12/1999		
	97	WO	99/14596	A1	AB Sangtec Medical	3/1999		
	98	WO	99/37819	A2	Clinical Micro Systems	07/1999		
<i>↓</i>	98a	WO	99/29711	A1	Nanogen Inc.	06/1999		
Examiner Signature	<i>Julie W.</i>				Date Considered	<i>12/15/2003</i>		

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English Language Translation is attached.

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Complete if Known

Application Number	09/866,067
Filing Date	May 23, 2001
First Named Inventor	Meade et al.
Group Art Unit	Not Yet Assigned
Examiner Name	Not Yet Assigned
Attorney Docket Number	A-58762-20/RFT/RMS/RMK

Sheet 5 of 12

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
<i>m</i>	99	Aizawa et al., "Integrated Molecular Systems for Biosensors," Sensors and Actuators B, B@\$(Nos 1/3) Part 1:1-5 (March 1995).	
	100	Albers et al., "Design of Novel Molecular Wires for Realizing Long-Distance Electron Transfer," Biochemistry and Bioenergetics, 42:25-33 (1997).	
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	105	Baum, R. M., "Views on Biological, Long-Range Electron Transfer Stir Debate," C&EN, pp 20-23 (1993).	
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	107	Bidan, "Electroconducting conjugated polymers: new sensitive matrices to build up chemical or electrochemical sensors. A Review," Sensors and Actuators, B6:45-56 (1992).	
	108	Biotechnology and Genetics: Genetic Screening Integrated Circuit," The Economist (February 25-March 3, 1995).	
	109	Blondex et al., "Three-dimensional Redox-Active layered Composites of Au-Au, Ag-Ag and Au-Ag Colloids," Chem. Commun. 1393-1394 (1998).	
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	111	Boon et al., "Mutation Detection by Electrocatalysis at DNA- Modified Electrodes," Nature Biotechnology, 18: 1096-1100 (October 2000).	
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<i>✓</i>	117	Carter et al., "Voltammetric Studies of the Interaction of Metal Chelates with DNA. 2. Tris-Chelated Complexes of Cobalt(III) and Iron(II) with 10-Phenanthroline and 2,2'-Bipyridine," J. Am. Chem. Soc., 111:8901-8911 (1989).	

Examiner Signature

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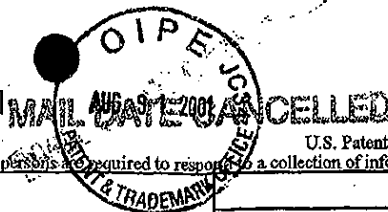
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

SEP 04 2001 (use as many sheets as necessary)

Sheet 6 of 12

Application Number	09/866,067
Filing Date	May 23, 2001
First Named Inventor	Meade et al.
Group Art Unit	Not Yet Assigned
Examiner Name	Not Yet Assigned
Attorney Docket Number	A-58762-20/RFT/RMS/RMK

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
<i>u</i>	118	Chang, I-Jy, et al., "High-Driving-Force Electron Transfer in Metalloproteins: Intramolecular Oxidation of Ferrocycytochrome c by Ru(2,2'-bpy) ₂ (im)(His-33)*," <i>J. Am. Chem. Soc.</i> , 113:7056-7057 (1991).	
	119	Chidsey, et al., "Coadsorption of Ferrocene-Terminated and Unsubstituted Alkanethiols on Gold" Electroactive Self-Assembled Monolayers," <i>J. Am. Chem. Soc.</i> , 112:4301-4306 (1990).	
	120	Chidsey, C.E.D., et al., "Free Energy and Temperature Dependence of Electron Transfer at the Metal Electrolyte Interface," <i>Science</i> , 251:919-922 (1991).	
	121	Chrissey, et al., "Covalent attachment of synthetic DNA to self-assembled monolayer films," <i>Nucleic Acids Research</i> , 24(15):3031-3039 (1996).	
	122	Clery, "DNA Goes Electric," <i>Science</i> , 267:1270 (1995).	
	123	<i>Commerce Business Daily Issue of September 26, 1996 PSA#1688.</i>	
	124	Davis, L. M., et al., "Electron Donor Properties of the Antitumour Drug Amsacrine as Studied by Fluorescence Quenching of DNA-Bound	
	125	Davis, L. M., et al., "Elements of biosensor construction," <i>Enzyme Microb. Technol.</i> 17:1030-1035 (1995).	
	126	Degani et al., "Direct Electrical Communication between Chemically Modified Enzymes and Metal Electrodes. 2. Methods for Bonding Electron-Transfer Relays to Glucose Oxidase and D-Amino-Acid Oxidase," <i>J. Am. Chem. Soc.</i> 110:2615-2620 (1988).	
	127	Degani, Y., et al., "Electrical Communication between Redox Centers of Glucose Oxidase and Electrodes via Electrostatically and Covalently Bound Redox Polymers," <i>J. Am. Chem. Soc.</i> , 111:2357-2358 (1989).	
	128	Degani, Y., et al., "Direct Electrical Communication between Chemically Modified Enzymes and Metal Electrodes. 1. Electron Transfer from Glucose Oxidase to Metal Electrodes via Electron Relays, Bound Covalently to the Enzyme," <i>J. Phys. Chem.</i> , 91(6):1285-1288 (1987).	
	129	Deinhammer, R.S., et al., "Electrochemical Oxidation of Amine-containing compounds: A Route to the Surface Modification of glassy carbon electrodes," <i>Langmuir</i> , 10:1306-1313 (1994).	
	130	Dreyer, G. B., et al., "Sequence-specific cleavage of single-stranded DNA: Oligodeoxynucleotide-EDTA-Fe(II)," <i>Proc. Natl. Acad. Sci. USA</i> , 82:968-972 (1985).	
	131	Drobyshev, A. et al., "Sequence Analysis by Hybridization with Oligonucleotide Microchip: Identification of β -thalassemia Mutations," <i>Gene</i> , 188:45-52 (1997).	
	132	Dubiley, S. et al., "Fractionation, phosphorylation and Ligation on Oligonucleotide Microchips to Enhance Sequencing by Hybridization," <i>Nucleic Acids Research</i> , 25(12):2259-2265 (1997).	
<input checked="" type="checkbox"/>	133	Durham, B., et al., "Electron-Transfer Kinetics of Singly Labeled Ruthenium(II) Polypyridine Cytochrome c Derivatives," <i>Advances in Chemistry Series</i> , 226:181-193 (1990).	

Examiner Signature	<i>Meade</i>	Date Considered	12/15/2003
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Substitute for form 1449B/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary) SEP 04 2001		Application Number	09/866,067
		Filing Date	May 23, 2001
		First Named Inventor	Meade et al.
		Group Art Unit	Not Yet Assigned
		Examiner Name	Not Yet Assigned
Page 7 of 12	Attorney Docket Number	A-58762-20/RFT/RMS/RMK	

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
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u	134	Durham, B., et al., "Photoinduced Electron-Transfer Kinetics of Singly Labeled Ruthenium Bis(bipyridin) Dicarboxybipyridine Cytochrome c Derivatives," <i>Biochemistry</i> , 28:8659-8665 (1989).	
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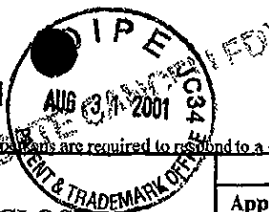
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		Filing Date	May 23, 2001
		First Named Inventor	Meade et al.
		Group Art Unit	Not Yet Assigned
		Examiner Name	Not Yet Assigned
Sheet 8	of 12	Attorney Docket Number	A-58762-20/RFT/RMS/RMK

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m	152	Heller, A., "Electrical Wiring of Redox Enzymes," <i>Acc. Chem. Res.</i> , 23:128-134 (1990).	
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				Filing Date	May 23, 2001
				First Named Inventor	Meade et al.
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<i>h</i>	170	Lenhard, J.R., et al., "Part VII Covalent Bonding of a Reversible- Electrode Reactant to Pt Electrodes Using an organosilane Reagent" <i>J. Electroanal. Chem.</i> , 78:195-201 (1977).	
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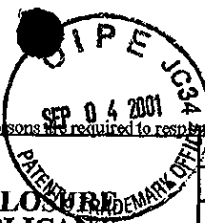
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		First Named Inventor	Meade et al.
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<i>m</i>	186	Mucic et al., "DNA-Directed Synthesis of Binary Nanoparticle Network Materials," J. Am. Chem. Soc., 120:12674-12675 (1998).	
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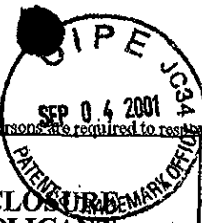
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u	203	Schumm, et al., "Iterative Divergent/Convergent Approach to Linear Conjugated Oligomers by Successive Doubling of the Molecular Length: A Rapid Route to a 128 Å-Long Potential Molecular Wire," <i>Angew. Chem. Int. Ed. Engl.</i> , 33(11):1360-1363 (1994).	
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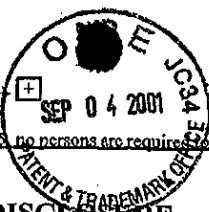
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<i>u</i>	218	Turro, N., et al. "Photoelectron Transfer Between Molecules Adsorbed in Restricted Spaces," <i>Photochem. Convers. Storage Sol. Energy, Proc. Int. Conf., 8th</i> , pp 121-139 (1990).	
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